Title: Valuation issues and gaps in financial modeling - an industry perspective on the use of Net Present Value models in the pharmaceutical industry

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<u>Abstract</u>

It is a common statement that valuations are more of an art than a science. That means that assigning value to projects is largely based on experience, situational context and preferences. However, most valuations are done in view of financial investments to be made in order to get objective, reliable and unbiased results as a basis for decision making. Assuming that financial models itself work objectively, it only can be the composition of assumptions and the valuers bias influencing the outcome and adding the element of art.

Objective of the presentation is to explain, based on the example of the healthcare industry, how investments in R&D, licensing deals or company acquisitions are valued regularly. Furthermore it will show how typical weaknesses in the assumption modeling and personal biases, such as sunk cost fallacy, authority and availability bias can lead to in-objective decisions.

Net Present Values (NPV[1]s) became the gold standard in the pharmaceutical industry because of their flexibility and transparency. R&D projects are regularly evaluated with Risk Adjusted NPV[1]s. Typical risk assumptions are modeled systematically and displayed e.g. with decision trees and attrition rates, published in the public domain. Nevertheless many other business related assumptions are not evaluated consistently, but get considered in the model. That is why justifying big investment decisions based on e.g. NPV[1]s bears significant risks, if there is no consistent modeling and evaluation of the assumptions.

Based on the broad acceptance and use of e.g. NPV's as a valuation method, improved and systematic assumption modeling will lead to better decision making and higher returns.
"The seven domains of attractive opportunities"* could be one alternative for a systematic collection, review and weight assumptions leading to less biased, more comprehensive and objective valuation outcome.

* "The new business road test" John Mullins, FT Prentice Hall 2010